

ABSTRACT OF THE DISCLOSURE

[40] Parts of the surface of a bone implant that come in contact with bone cells are pretreated by sandblasting and/or acid etching and the pretreated microstructure is reshaped to produce a microstructure with an array of densely packed rounded domes separated by rounded lacunae. The size of the domes, the spacing between the domes and the depth of the lacunae are the same order of magnitude as the average size of the bone cells and the cell projections connecting the bone cells. The reshaping may be accomplished by sputtering a cover layer consisting of a biocompatible material onto the pretreated surface parts. A nanostructure comprised of an array of densely packed rounded domes separated by rounded lacunae can further superimposed on the microstructure of the implant surface.